Practice HW#4 Answer Key

1) An individual’s consumption possibilities constraint is its “budget constraint.” A budget constraint is determined by (1) the price of the goods (P) and (2) the individual’s income (I). The amount that an individual can buy (Q) is determined by (for all possible goods i)

\[ \sum_{i=1}^{\infty} P_i \times Q_i = I \]

2) MU theory works even if you can’t observe MU, because people make these decisions subconsciously. When, having a dollar in your pocket, you choose a cup of coffee rather than a bagel in the morning, what you choose is based on utility vs. price. What you choose next, another cup of coffee or the first bagel, you are using MU theory. Even though people don’t think using the economic terms, they are still making this decision.

3) Consumer Surplus is the difference between what you are willing to pay for a good, and what you have to pay for that good. In other words, it is the amount of money left over in your pocket after you make the purchase. Graphically, it is the triangular area between the demand curve (your willingness to pay) and the price of the good, up to the point where those 2 curves meet. (To the right of that point, the price is greater than your willingness to pay for that good, so you wouldn’t buy it).

4) Firms are ways in which people organize production. Its main problem is how it can allocate its scarce resources to maximize its benefit. For a profit-maximizing firm, its goal is to max profit subject to its resource constraint. For a non-profit, the goal is often to maximize its output subject to this constraint. Note that profit maximization is not necessarily the same as output maximization (otherwise all firms would be large).

SECTION 2

1) a. Graph at end of this file. Equilibrium price is $650, quantity is 400
   b. Incidence split. New price is $700, consumers pay $50 more, landlords keep $600 ($50 less). New equilibrium quantity is 300.
   c. The same. Equilibrium quantity is 300, and consumers would pay the $600 eq. price plus the $100 tax (for a total of $700). Landlords only keep $600.

2) a. MU=20,18,16,14,12,10,8,6
   b. 5 units(where MU = Price)
   c. (20-12) + (18-12) + (16-12) + (14-12) + (12-12) = 20

3) a. Avg = 1200, 11100, 1000, 900, 800; MP = 1200, 1000, 800, 600, 400
   b. Graphs at end of sheet
   c. Diminishing returns per worker. Note that TP has a decreasing slope (its flattening out), because MP per worker is decreasing.
Graphs for Section II

Problem 1

\[ S' = S + \text{Tax} \quad \text{(for part B)} \]

\[ D' = \text{Demand w/ $100 tax} \]
Section II graphs (cont.)

**Question 3**

[Graph 1: TP vs. Labor]

[Graph 2: AP, MP_L vs. L]